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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/392,019	09/08/1999	DAVID CAHILL	B0630/7020	9463

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EXAMINER

LEE, PING

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 07/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/392,019

Applicant(s)

CAHILL, DAVID

Examiner

Ping Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Noro (US 5,206,912).

Regarding claims 1-3, Noro shows a thermal overload and resonant motion control circuit for an audio speaker including a feedback generating circuit (includes 31 and 32 in Fig. 6) for generating a feedback signal (from 32), the feedback signal being a function of both drive current to the speaker and the speaker impedance (as shown in Fig. 6, the output from 32 is a function of both the drive current to the speaker and the speaker impedance), and an attenuator (includes 20).

Regarding claim 7, Noro shows the sensing resistor (Rs).

Regarding claims 5, 8 and 9, Noro shows the first, second and third differential amplifiers ((32, 31, and the one before 20) with a low pass filter.

3. Claims 1, 7 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Pritchard (US 5,761,316).

Regarding claims 1, 7 and 10-12, Pritchard shows a thermal overload and resonant motion control circuit for an audio speaker including a feedback generating

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circuit (Fig. 1) for generating a feedback signal (from 32), the feedback signal being a function of both drive current to the speaker and speaker impedance (col. 3, lines 49-61 or col. 3, lines 34-36), and an attenuator (includes 2) having sensing resistor (31).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noro.

Regarding claims 4 and 6, Noro fails to clearly show the value of a and b by explicitly listing the value of each resistor component in the circuit as shown in Fig. 6. Noro teaches a general speaker driving circuit using the drive current and the drive voltage for controlling the performance. However, it was a matter of engineering design choice to fine tune the circuit by using any appropriate resistance value for each resistor in the circuit. Thus, it would have been obvious to one of ordinary skill in the art to modify Noro's system by using designer's selected resistance value for each resistor according to the application and designer's choice.

***Response to Arguments***

6. Applicant's arguments filed 4/23/04 have been fully considered but they are not persuasive.

Applicant argued that Noro fails to show that the feedback signal is a function of both drive current to the speaker and the speaker impedance.

As shown in Fig. 6 of Noro, element 32 generates a feedback signal which is a function of both drive current to the speaker and the speaker impedance.

Applicant argued that Noro fails to show an attenuator that is operable in response to the feedback signal for controlling a drive signal.

As shown in Fig. 6 of Noro, attenuator 20 is operable in response to the feedback signal (from 32) for controlling a drive signal (to 3).

Applicant argued that Pritchard fails to show a feedback signal which is a function of both drive current to the speaker and speaker impedance.

As shown in Fig. 1 of Pritchard, the feedback signal reads on the signal after element 32. This signal is a function of both the drive current to the speaker and the speaker impedance (col. 3, lines 49-61 or col. 3, lines 34-36).

Applicant argued that Pritchard fails to show an attenuator that is operable in response to the feedback signal for controlling a drive signal.

As shown in Fig. 1 of Pritchard, attenuator 2 is operable in response to the feedback signal (from 32) for controlling a drive signal (to 3).

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

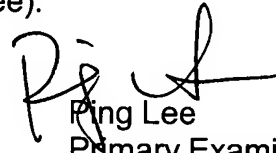
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 703-305-4865. The examiner can normally be reached on Monday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on 703-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ping Lee  
Primary Examiner  
Art Unit 2644

pwl